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Publication date:
2015

Document Version
Publisher's PDF, also known as Version of record

Experiences of how fishers grab opportunities in (more) free regulation of gear

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Summary

In the Minidisc project 14 vessels fished under conditions corresponding to free choose of gear. Based on the skippers initial idea of gear adjustment and a subsequent interview 6 months later the experiences of the skippers´ choice of "free" gear, the process for adjusting it and the tools for evaluating the efficiency and selectivity are discussed. Only incremental development using elements from previous used gear and other fisheries were found. Gear development took place in an interaction between the skipper and trawl maker, while no research was involved. This indicates that free choice of gear (under monitored discard ban) would lead to incremental adjustments. Parts of the fleet would have difficulties in evaluating the gear and subsequently optimise by adjusting. This would leave a need for support for development of evaluation procedures, especially among the small vessels. Radical changes probably would still need collective or public investments.

Introduction

In EU TAC (Total Allowable Catches) is the principal regulation tool of fisheries. Instead of catches (C) regulation has been on landings (L) combined with obliged discard of over-quota catches and technical regulations – especially detailed gear regulation, partly to reduce bycatch and following discard by forcing the industry to use gear with a scientific documented high selectivity. With an efficiently controlled discard ban (landing obligation), landings tend to equalise catches; L = C, and gear control of less importance, as discussed in e.g. the EU Scientific, Technical and Economic Committee for Fisheries (2015). The Danish Minidisc project allowed fishers to fish under "free choice of gear"-like conditions. The paper discuss experiences from this project; how radical changes the test gear was, how the skippers reached this and finally a reflection of these skippers perspectives of an possibly free choice of gear; which tools they got for own gear development/adjustment and if there would be needs of support for this.

Materials and methods

In the Minidisc project 14 vessels, 12- 32 m length, trawl/Danish Seine vessels in mixed fishery in Baltic, Skagerrak and the North Sea fished under free choose of gear with all catch accounted for on the individual quota. The project vessels registered catch and bycatch in their gear of free choice and a control gear, according to the technical regulation for the specific fishery. All catches were camera monitored and accounted for in the individual quotas, participation was rewarded with extra quotas (Mortensen et.al. 2015). At project start the participants in a survey indicated which problems changed gear should solve and how the changed gear would be. After 4-6 months of use of "free" and control gear, all skippers were interviewed in personal semi-structured interviews of 1-2 hours duration. The interviews focused on general project experiences, the discard ban and finally on how the gear was chosen/developed and the skippers view on possible free choice of gear. The interviews were recorded, transcribed and analysed by qualitative methods (Kvale 2007). For this paper the basically input is the survey project and the interviews, especially the elements of motives for and practical development of the test gear as well and the skippers` perspectives on free gear choice. Further two interviews with trawl makers servicing several of the vessels.

Results and discussion

The developed "free" gear generally focused on specific situations (time and area) with high bycatch/discard rather than universal solutions. It thereby supplemented other legal gear, the compulsory mesh size or even higher, depending on the situation. In practice the changes of the gear was incremental; previous used design and mesh sizes or eclectic implementation of elements from gear from other fisheries (escape ports and grids, devises for segmenting the catch within the net). Even confronted with the hypothetic situation of free choice of gear most skippers did not expect larger gear changes, as they felt the gear in general were close to have the balance between catching the target species and letting unwanted bycatch escape. They did not expect larger changes in case of free choice of gear - except for a few "bad guys" in the sector which would act irresponsible and make dirty fishing and illegal discarding.

For several skippers, the original gear sketches were changed 2-3 times during the 6 month before interviewing. The original design and later changes were based on ideas of the skipper (or crew). The specific changes were made in a corporation with the local trawl maker in a dialogue, where the trawl maker transformed the idea to net, but the skipper had to "own" the idea to be willing to fine tune the use. The process was based on the skippers and trawl makers practical knowledge in a trial and error process. No gear development involved the fisheries technology university. This is in line with the expectations of the "chain-linked model of innovation", where innovations are based on internal knowledge and then, if this is not sufficient, on knowledge nearby the innovative organisation. Only in case where no solutions are available here direct research is involved (Kline and Rosenberg 1986).

Under free choice of gear the individual skipper would need to be able to evaluate the efficiency and selectivity of the gear in a systematic way. The present methods in use (under normal activity) can be seen on a scale from immediately catch registration (for on-sea packaging on larger vessels) over visual assessment comparing catches e.g. between trawl in pair trawling to checking the accounts from the auction showing the precise catch (landing) composition in species and sizes. The latter evaluation form is typical for the small vessels in the group. To be able to tap the opportunities of free choice of gear there seem to be a lack of procedures enabling some skippers to evaluate the changes of gear and subsequently optimise further adjustment.

Based on these 14 vessels no radical changes in use of gear would be expected in case of free choice of gear under a well monitored discard ban. The vessels would use different gear over the year depending of target species and expected catch composition in the specific area and time. The larger vessels seem best fitted to monitor efficiency and selectivity of the gear and make the adequate changes in the gear. The minor vessels seems to have less procedures allowing for such close follow up on the gear in use. There might be a need of supporting all, but especially the minor vessels in developing procedures for systematic evaluation. For development and implementation their technology providers, especially the net makers might play a central role. Due to the apparent high diffusion of concepts for gear, radical new technology as new gear or types of selective devises probably still need to be provided from a collective or public source.

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